

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/Ala Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017811**Date Inspected:** 22-Oct-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower and OBG Components**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance Inspector (QA Inspector) George Goulet was present during the times noted above for observations relative to the work being performed.

Bay 11

This QA Inspector randomly observed the following work in progress in Bay 11:

SMAW tack welding of weld joint BK004-023-019 located on PCMK OBG BK004-023, bent edge plate corner insert. Welder was identified as 202319. QC's were identified as Liu Yang (QC1). Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Li Lin (QCA1), who was not a CWI. Welding variables recorded by QCA1 appeared to comply with WPS-B-P-2112 and WPS-B-P-2113 as identified by QCA1.

SMAW welding of weld joints BK004-017-056~059 located on PCMK OBG BK004-017, box closure plate. Welder was identified as 201500. QC's were identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding and recording data was QCA1, who was not a CWI. Welding variables recorded by QCA1 appeared to comply with WPS-B-P-2211 as identified by QCA1.

Heat straightening of PCMK's OBG BK004A2-021-016, 018. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the heat straightening and recording data was QCA1, who was not a CWI. Heat treatment observed by this QA Inspector and recorded by QCA1 appeared to comply with HSR1(B)-9611 as presented to this QA Inspector by QCA1. The document was written in Chinese language, with only the welds numbers and HSR number recognizable by this QA Inspector.

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

Bay 10

This QA Inspector randomly observed the following work in progress in Bay 10:

FCAW repair welding of weld joint BK004A1-027-043 located on PCMK OBG BK004-027, straight edge plate to deck plate. Welder was identified as 040434. QC was identified as QC1. Assisting QC1 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Deng Zhi Bin (QCA2), who was not a CWI. Welding variables recorded by QCA2 appeared to comply with WPS-345-FCAW-2G(2F)-repair as identified on ZPMC Weld Repair Report B-WR16107 presented to this QA Inspector by QCA1.

OBG Trial Assembly Area

This QA Inspector randomly observed the following work in progress in the OBG Trial Assembly Area:

SMAW welding of weld joints BP106-001-020, 022 located on PCMK OBG 11BW/11CW transverse joint, bottom plate T-stiffener web to bottom plate T-stiffener web. Welder was identified as 041713. QC was identified as QC2. Assisting QC2 at this location and appearing to be monitoring the welding and recording data was ZPMC QC Wang Zhu (QCA3), who was not a CWI. Welding variables recorded by QCA3 appeared to comply with WPS-B-P-2213-B-U2-FCM-1.

SMAW welding of weld joints BP052-001-024, 026 located on PCMK OBG 11BW/11CW transverse joint, bottom plate T-stiffener web to bottom plate T-stiffener web. Welders were identified as 057333, 041713. QC was identified as QC2. Assisting QC2 at this location and appearing to be monitoring the welding and recording data was QCA3, who was not a CWI. Welding variables recorded by QCA3 appeared to comply with WPS-B-P-2213-B-U2-FCM-1.

SMAW welding of weld joints BP160-001-028, 030 located on PCMK OBG 11BW/11CW transverse joint, bottom plate T-stiffener web to bottom plate T-stiffener web. Welder was identified as 057333. QC was identified as QC2. Assisting QC2 at this location and appearing to be monitoring the welding and recording data was QCA3, who was not a CWI. Welding variables recorded by QCA3 appeared to comply with WPS-B-P-2213-B-U2-FCM-1.

ZPMC personnel performed bolt tightening using an air driven impact gun in OBG segment 11BW at panel point 100 on the upper and lower chevron bolt sets, south (crossbeam) side.

Heavy Dock

This QA Inspector randomly observed the following on the Heavy Dock:

All 4 towers, lift 4 were positioned on a base separate pedestal at end of the Heavy Dock. South tower, lift 3 was positioned horizontally on stanchions on the deck at the end of the Heavy Dock. No work was being performed on any of the tower components and no ZPMC floating cranes were moored to the Heavy Dock or in the area.

Blast Shop 1

ZPMC requested Caltrans personnel to perform visual inspections of east tower, lift 3 from the bottom end at 83M elevation to the top of 99M double diaphragm. At approximately 2300 hours to 2400 hours, following the initial

WELDING INSPECTION REPORT

(Continued Page 3 of 3)

blast cleaning of the steel surfaces, several QA Inspectors, including this QA Inspector, performed random visual inspections of these areas. ABF and ZPMC Inspectors were present and performing visual inspections of the areas noted above. An ABF representative (BABF) informed this QA Inspector that he would be documenting all weld repairs and would provide this the QA Inspectors with a copy of the documentation. This QA Inspector visually observed several areas that required grinding to resolve visual weld spatter, arc strikes, shallow nicks, scrapes, rough edges of unground welds, and sharp edges of ground welds. These areas were clearly marked with chalk as either "grind" or "grind and perform magnetic particle testing (MT)" using the letter G or the letters G+MT, respectively. This QA Inspector was notified that the above noted areas had been ground and MT had been performed. This QA Inspector randomly visually verified that the work had been performed. This QA Inspector observed a 4mm to 5mm deep excavation in the inside flange surface of the 95.5 single diaphragm. The area was clearly marked as needing weld repair, photographed, and documented. Other weld repairs were observed by other inspectors. All locations were documented by ZPMC QC Inspectors and BABF. A copy of the documentation was presented to the QA Inspectors.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Micheal Ng, 159-2184-5703, who represents the Office of Structural Materials for your project.

Inspected By:	Goulet,George	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
